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EXAMINER

MCDERMOTT, KEVIN

ART UNIT	PAPER NUMBER
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3635

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,108

Applicant(s)

IGARASHI, SHUNICHI

Examiner

Kevin McDermott

Art Unit

3635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-15, 17-26, 28, 30, 32, and 34-37 is/are rejected.
- 7) ☒ Claim(s) 4, 16, 27, 29, 31 and 33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

- a. Page 19, line 9. Item number 13 does not appear to be in figure 1.
- b. Page 24, third line from the bottom. Item number 50 does not appear to be in figure 6.
- c. Page 26, lines 5 and 10. Reference is made to figure 7, but there is no figure 7.
- d. Page 26, line 17. It appears that 35a should be 35.
- e. Page 29, line 12. It appears that "2" should be "21".
- f. Page 31, line 17. Reference number 10 does not appear to be in figures 1, 2, or 3.

Appropriate correction is required.

Claim Objections

Claim 9 is objected to because of the following informalities:

- a. Line 3. It appears that "rolling" should be cancelled.
- b. Line 3. It appears that "an" should be inserted between "at" and "overlap".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 36 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of these claims recites in their respective lines 3, "the column". There is insufficient antecedent basis for this limitation in either of the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 6, 11, 12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Fyfe.

Fyfe discloses in figures 1-4 and in column 4, lines 53-65, and in column 7, line 68 to column 8, line 7, a column 1 having an elongated central portion 9 rising above base 3, terminating at an upper support end 11 usually in the form of a flat surface that is connected or otherwise attached to an overhead structure 13 to provide support thereto. A membrane 27 is disposed on the column 1 and at least one layer 41 of high-strength, stretchable fiber or fibers is disposed thereon. Membrane 27 is a weak layer disposed between the column 1 and the fiber layer 41. The stretchable fibers usable in

layer 41 may be selected from a wide range of high-strength material, such as carbon fibers, graphite fibers, polyester fibers, glass fibers, polyaramid fibers and combinations thereof. Fibers 41 may be formed into a tape having a width variable between 2 to 48 inches. The tape may be applied with or without adhesive. It is preferably pulled tightly while being applied.

Fibers 41 may be made in a roll of narrow tape 42. When using narrow fiber tape 42, it is preferred to wrap it around the column surface at an angle "b" as shown in figure 3 and overlap a portion of the previous wrap. It is preferred that the angle be held constant throughout the entire wrapping, except to be reversed during any subsequent layer applied thereover.

Regarding claim 1, the narrow tape 42 is the claimed high-ductility material wrapped around the circumference of a structure.

Regarding claim 2, the narrow tape 42 is made from fibrous materials as explained above.

Regarding claim 3, the narrow tape 42 is a fibrous tape-like material and wound spirally on the column 1 while overlapping at overlap portions.

Regarding claim 5, as explained above, the tape 42 may be applied using an adhesive.

Regarding claim 6, using adhesive to apply the tape 42 to the column 1 would bond the overlap portions together. Examiner interpreted "and/or" as "or."

Regarding claim 11, Column 8, lines 57-65 disclose a hardenable, low or non-shrinkable liquid material 75 being pumped through injection means 33, to fill the area

between the column surface and the membrane 27. Column 9, lines 34-52 disclose the material 75 being hardenable polyester resins, hardenable epoxy resins, and mixtures of these two materials.

Regarding claim 12, the membrane 27 is a weak layer and is disposed between the column and the tape 42.

Regarding claim 17, as explained above, the tape 42 may be applied using an adhesive.

Claims 13-15, 22, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Salek-Nejad.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Salek-Nejad discloses in figures 13-16 and in column 8, line 59 – column 9, line 67, a flexible strap of reinforcing material 24 for wrapping around a concrete column to repair and strengthen the column.

Regarding claim 13, the preferred components for the flexible strap/belt 24 are a plurality of strands. Nonmetallic materials are preferred for the construction of the strands, although metallic materials and combinations of nonmetallic and metallic materials can be used as well. Each strand is composed of fibers selected from a group consisting of carbon fibers, graphite fibers, glass fibers, organic fibers, synthetic fibers, and metal fibers, or composite fibers made up of combinations of such fibers.

The flexible belts 24 of reinforcing material are preferably wrapped while applying a tension force to them. The magnitude of this tensile force can vary from close to zero to close to the tensile strength of the belt.

A preferred method of strengthening the column comprises wrapping a flexible strap of reinforcing material in the form of a single belt 24 around the column in a spiraling fashion. The single belt 24 of reinforcing material is wrapped circumferentially about the exterior of the concrete column and longitudinally along the height of the concrete column in either one of two continuous spiraling relationships. As shown in figures 13 and 14, the successive turns of the belt 24 are placed from one another at selected spacing 36. As shown in figure 15, the turns of the single belt 24 are placed in overlapping edge-to-edge contacting relation 38.

Regarding claim 14, as explained above the belt 24 is made from fibers.

Regarding claim 15, the belt 24 is made from fibers, is wound spirally on the outer surface of a column in a fixed and overlapping condition.

Regarding claims 22 and 23, column 10, lines 23-39 disclose wrapping the belt 24 around the concrete column, in an outwardly spaced relationship therefrom. The outwardly spaced relationship of the single flexible belt creates a gap 42 around the exterior or outer surface 44 of the concrete column and takes on the form of an outer shell 46 about the concrete column. A plurality of spacers 47 are placed in spaced relation to one another about the concrete column to assist in forming the single belt into the shell 46. The outer shell 46 defined by the single flexible belt has a length substantially equal to the desired height of the concrete column to be strengthened.

The gap 42 between the concrete column and the outer shell 46 can be filled with a variety of materials including, but not limited to, ordinary resin, ordinary grout, expansive resin, or expansive grout.

The gap 42 is the claimed cavity. Additionally, in order for the ordinary resin to fill the space between the outer shell 46 and the column it must be viscous.

Claim 34 is rejected under 35 U.S.C. 102(e) as being anticipated by Fawley.

Fawley discloses in figure 2 and in column 5, line 42 to column 6, line 31, reinforcing a concrete column 45 with fabric made from fibers 38, 40 and resin 41. The fibers are made from material including a large plurality of bi-directional, lightweight, high tensile strength, electrically nonconductive, nonmetallic, high elongation filaments. The reinforcement material, in the form of sleeves or jackets, are placed around a primary load bearing member, such as concrete column 45 (fig. 7) and fixed in place by an adhesive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salek-Nejad in view of Fyfe.

Salek-Nejad's disclosure is discussed above. However, Salek-Nejad does not disclose using an adhesive to attach the belt 24 to the column.

Fyfe discloses using an adhesive to apply a tape 42 to a column for structural reinforcement.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adhesively attach the belt 24 of Salek-Nejad to the column.

One of ordinary skill would be motivated to make such a modification to provide a strong and stable bond between the belt 24 and column, to ultimately prevent failure of the column.

Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isley, Jr. (U.S. Patent No. 5,607,527) in view of Probst and further in view of Ingalls and Neuner (U.S. Patent No. 5,925,579).

Isley discloses in figure 2 and in column 4, lines 4-47, a concrete column 10 reinforced with a composite layer 22. The layer 22 is made from 4 fabric layers 24, 26, 28, 30 and 32. Figure 2 shows a fabric 54 being unwound from roll 56 and dipped in resin 58. The material 54 constituting the layer 22 is the claimed high ductility material that is provided in roll form. However, Isley does not disclose the roll including a core, a plurality of parting lines drawn on one side of the material in the longitudinal direction, or applying the material to a structural member at any one of two or more pitches.

Ingalls discloses in figures 1-4 and in column 2, lines 35-40, wrapping a material about a core 2 for shipment. The core 2 may be made of any material so long as it is strong and stiff enough to support the weight of the wrappings.

Probst discloses in figure 2, providing roofing paper, in roll form, having two sets of longitudinal guide lines.

Neuner discloses in figure 1 applying reinforcing material to a structural member/column at a pitch.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the material of Isley to be wrapped around a core in roll form, to include a plurality of longitudinal parting lines, and to apply it to a structural member at any one of two or more pitches.

One of ordinary skill would be motivated to provide the material wrapped around a core so that it is easier to transport to a jobsite. One of ordinary skill would be motivated to provide the material with guide lines to properly align the material when wrapping it around a structural member. One of ordinary skill would be motivated to wrap the material at any one of two or more different pitches (matching the number of sets of guidelines) to provide safe reinforcement in an underwater environment.

Regarding claim 25, the guidelines of Probst are visually distinguishable from each other.

Claims 26 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fawley (U.S. Patnet No. 5,924,262).

Fawley discloses in figure 2 and in column 5, line 42 to column 6, line 31, reinforcing a concrete column 45 with fabric made from fibers 38, 40 and resin 41. The fibers are made from material including a large plurality of bi-directional, lightweight, high tensile strength, electrically nonconductive, nonmetallic, high elongation filaments.

The reinforcement material, in the form of sleeves or jackets, are placed around a primary load bearing member, such as concrete column 45 (fig. 7) and fixed in place by an adhesive. However, Fawley does not disclose the modulus of elasticity of the reinforcement material being lower than that of a tie hoop.

It would have been an obvious design choice to make the reinforcement material modulus of elasticity lower than that of a tie hoop, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to provide a strong material capable of safely reinforcing a structural member.

Claims 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norwood.

Norwood discloses in figures 1-4, and in column 6, lines 2-15, a rubber strip 2 wrapped helically around a pole and a glass reinforced polyester two-piece sleeving system³ placed symmetrically around the pole.

The rubber strip 2 is the claimed high ductility material and the sleeving system 3 is the claimed facing surrounding wall material. The rubber strip 2 is disposed inside the sleeving system 3 and a cavity is interposed between the column and the sleeving system 3. However, Norwood does not disclose the rubber strip 2 having a modulus of elasticity lower than that of a tie hoop.

It would have been an obvious design choice to make the reinforcement material modulus of elasticity lower than that of a tie hoop, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to provide a strong material capable of safely reinforcing a structural member.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fyfe.

Fyfe's disclosure is discussed above. However, Fyfe does not specifically disclose applying the tape 42 such that at least a rolling start end portion is bonded to the structural member while a rolling termination end portion is bonded to a portion of an underlying layer of the tape 42.

It would have been an obvious design choice to apply the tape 42 such that at least a rolling start end portion is bonded to the structural member while a rolling termination end portion is bonded to a portion of an underlying layer of the tape 42, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to safely reinforce a structural member.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fyfe.

Fyfe's disclosure is discussed above. However, Fyfe does not specifically disclose applying the tape 42 such that intermediate layers of the tape 42 are bonded together at least a single zonal region extending along a length direction of the member.

It would have been an obvious design choice to apply the tape 42 such that intermediate layers of the tape 42 are bonded together at least a single zonal region extending along a length direction of the member, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to safely reinforce a structural member.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fyfe.

Fyfe's disclosure is discussed above. However, Fyfe does not specifically disclose applying the tape 42 such that at least a rolling start end portion of the high ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the tape 42 is bonded to a corresponding portion of an underlying layer of the tape 42.

It would have been an obvious design choice to apply the tape 42 such that at least a rolling start end portion of the high ductility material is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the tape 42 is bonded to a corresponding portion of an underlying layer of the tape 42, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to safely reinforce a structural member.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fyfe.

Fyfe's disclosure is discussed above. However, Fyfe does not specifically disclose overlapping at overlap portions before or after the tape 42 is rolled on the member at upper and lower portions of the member by being rolled tightly on the member by a plurality of turns to thereby be rolled in layers such that at least a rolling start end portion of the tape 42 is bonded to a corresponding portion of an outer surface

of the member while a rolling termination end portion of the tape 42 is bonded to a corresponding portion of an underlying layer of the tape 42.

It would have been an obvious design choice to overlap at overlap portions before or after the tape 42 is rolled on the member at upper and lower portions of the member by being rolled tightly on the member by a plurality of turns to thereby be rolled in layers such that at least a rolling start end portion of the tape 42 is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the tape 42 is bonded to a corresponding portion of an underlying layer of the tape 42, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to safely reinforce a structural member.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salek-Nejad.

Salek-Nejad's disclosure is discussed above. However, Salek-Nejad does not specifically disclose the belts 24 rolled tightly on the structural member in a plurality of layers such that at least a rolling start end portion of the belt 24 is bonded to a corresponding portion of an outer surface of the member are bonded together and/or such that the belt 24 is bonded to a surface of the member at at least a single zonal region extending along a length direction of the member.

It would have been an obvious design choice to roll the belt 24 tightly on the structural member in a plurality of layers such that at least a rolling start end portion of

the belt 24 is bonded to a corresponding portion of an outer surface of the member are bonded together and/or such that the belt 24 is bonded to a surface of the member at at least a single zonal region extending along a length direction of the member, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to safely reinforce a structural member.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salek-Nejad.

Salek-Nejad's disclosure is discussed above. However, Salek-Nejad does not specifically disclose spirally winding the belts 24 about the structural member in a fixed and overlapping condition combined with being rolled tightly on the member in a plurality of layers such that at least a rolling start end portion of the belt 24 is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the belt 24 is bonded to a corresponding portion of an underlying layer of the belt 24.

It would have been an obvious design choice to spirally wind the belt 24 about the structural member in a fixed and overlapping condition combined with being rolled tightly on the member in a plurality of layers such that at least a rolling start end portion of the belt 24 is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the belt 24 is bonded to a corresponding

portion of an underlying layer of the belt 24, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to safely reinforce a structural member.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salek-Nejad.

Salek-Nejad's disclosure is discussed above. However, Salek-Nejad does not specifically disclose spirally winding the belts 24 about the structural member in a fixed and overlapping condition before or after the belt 24 is rolled on the structural member at upper and lower end portions of the structural member by being rolled tightly on the member in a plurality of layers such that at least a rolling start end portion of the belt 24 is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the belt 24 is bonded to a corresponding portion of an underlying layer of the belt 24, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

It would have been an obvious design choice to spirally wind the belt 24 about the structural member in a fixed and overlapping condition before or after being rolled tightly on the member in a plurality of layers such that at least a rolling start end portion of the belt 24 is bonded to a corresponding portion of an outer surface of the member while a rolling termination end portion of the belt 24 is bonded to a corresponding portion of an underlying layer of the belt 24, since applicant has not disclosed that doing so solves any stated problem or is for any particular purpose.

One of ordinary skill would have been motivated to make such a modification to safely reinforce a structural member.

Allowable Subject Matter

Claims 4 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 4, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, the method for reinforcing a structure having the limitations recited in claims 1 and 3, wherein the reinforcing material is spirally wound around the structural member while the number of overlap turns is sequentially increased until a predetermined maximum number of overlap turns is reached.

Regarding claim 16, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, the method for reinforcing a structure having the limitations recited in claims 13 and 15, wherein the reinforcing material is spirally wound around the structural member while the number of overlap turns is sequentially increased until a predetermined maximum number of overlap turns is reached.

Claims 27, 29, 31, and 33, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 27, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, the method for reinforcing a structure having the limitations recited in claim 26, wherein the reinforcing material comprises a plurality of surrounding cores disposed around a structural member at predetermined intervals along the vertical direction, and a fibrous or rubber sheet connecting the cores along the vertical direction, to thereby form an integral bellows-like reinforcement.

Regarding claim 29, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, the method for reinforcing a structure having the limitations recited in claim 28, wherein the reinforcing material comprises a plurality of surrounding cores disposed around a structural member, with a cavity disposed therebetween, at predetermined intervals along the vertical direction, and a fibrous or rubber sheet connecting the cores along the vertical direction, to thereby form an integral bellows-like reinforcement.

Regarding claim 31, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, the method for reinforcing a structure having the limitations recited in claim 30, wherein the reinforcing material comprises a plurality of surrounding cores disposed around a structural member at predetermined intervals along the vertical direction, and a fibrous or rubber sheet connecting the cores along the vertical direction, to thereby form an integral bellows-like reinforcement.

Regarding claim 33, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, the method for reinforcing a structure having the limitations recited in claim 32, wherein the reinforcing material comprises a plurality of surrounding cores disposed around a structural member, with a cavity disposed therebetween, at predetermined intervals along the vertical direction, and a fibrous or rubber sheet connecting the cores along the vertical direction, to thereby form an integral bellows-like reinforcement.

Claims 36 and 37 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 36, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, a reinforcing material comprising a plurality of surrounding cores disposed around a structural member at predetermined intervals along the vertical direction, and a fibrous or rubber sheet connecting the cores along the vertical direction, to thereby form an integral bellows-like reinforcement.

Regarding claim 37, the prior art does not disclose, and it does not appear obvious to modify the prior art to disclose, a reinforcing material comprising a plurality of surrounding cores disposed around a structural member, with a cavity disposed therebetween, at predetermined intervals along the vertical direction, and a fibrous or rubber sheet connecting the cores along the vertical direction, to thereby form an integral bellows-like reinforcement.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Kevin McDermott, whose telephone number is 703-308-8266.

A handwritten signature in black ink, appearing to read "Brian Glessner", with a long horizontal flourish extending to the right.

BRIAN E. GLESSNER
PATENT EXAMINER

KM 10/01/03